



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

D3391-021
Job Sheet 168760-B



Part No: D3391-021

Job Qty: 1 ea

Part Name: Fwd Tube Assembly



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 11/22/17

Job Tracking No:

Due Date: 12/8/17

Created By: Marie Lajeunesse

Type: Stock

Description:

Note: DWG REV J SHEETS 4,5 IPP A 05.09.13 New issue KJ/JLM IPP B IPP C IPP D 07.03.13 rev F dwg EC IPP E 07.11.07 revG dwg ecn1053P EC verified by: DD IPP Rev:f ECN 1056 07-11-12 DD verified by: EC IPP Rev:G 08-09-08 new process (ecn 08-510) DD verified by:EC IPP Rev:H 08-09-10 revH as per dwg DD verified by:EC IPP Rev I 09.02.02 added hardware EC verified by: DD IPP Rev:J 11.11.14 AS PER REV.I DD verified by:JLM

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	1 Ea	12/7/17	12/7/17	0.00	0.00	Start Up Skid tubes		
100	Skid tubes	1 pcs	12/7/17	12/7/17	0.00	0.82	Skid tubes		in 1/6/17
110	CNC Bend Skid tubes	1 pcs	12/7/17	12/7/17	0.00	1.00	CNC Bend Skid tube		m 6/16/17
120	QC	1 pcs	12/7/17	12/7/17	0.00	0.00	QC5		DE
130	CNC Vertical Machining	1 pcs	12/7/17	12/7/17	2.21	1.00	HAAS 1		KX 17-10-08
140	QC	1 pcs	12/7/17	12/7/17	0.00	0.00	QC2		KX 17-12-08
150	Mill Conv	1 pcs	12/7/17	12/7/17	0.00	0.27	Mill Conv 1		J.C.L. 17-12-11
160	QC	1 pcs	12/7/17	12/7/17	0.00	0.00	QC2		J.C.L. 17-12-11
170	QC	1 pcs	12/7/17	12/7/17	0.00	0.00	QC8		J.C.L. 17/12/11
180	Skid tubes	1 pcs	12/7/17	12/7/17	0.00	0.82	Skid tubes		AP 2017/12/14
190	QC	1 pcs	12/7/17	12/7/17	0.00	0.00	QC5		AP 17-12-15
200	HandFinish	1 pcs	12/7/17	12/7/17	0.00	0.33	HandFinish1		BER 17/12/16
210	QC	1 pcs	12/7/17	12/7/17	0.00	0.00	QC7		
220	Skid tubes	1 pcs	12/7/17	12/7/17	0.00	0.82	Skid tubes		AP 2017/12/20
230	QC	1 pcs	12/7/17	12/7/17	0.00	0.00	QC5		AP 17-12-21
235	HandFinish	1 pcs	12/7/17	12/7/17	0.00	0.33	HandFinish2		2017-12-21
241	Spray Paint	1 pcs	12/7/17	12/7/17	0.00	0.99	Spray Paint	P00380720	2017-12-21
250	QC	1 pcs	12/7/17	12/7/17	0.00	0.00	QC14		12/12/20
254	HandFinish	1 pcs	12/8/17	12/8/17	0.00	0.33	HandFinish4		12/12/20
256	QC	1 pcs	12/8/17	12/8/17	0.00	0.00	QC5		12/12/20
260	Packaging	1 pcs	12/8/17	12/8/17	0.00	0.00	Packaging3		12/12/20
280	QC21-SA	1 Ea	12/8/17	12/8/17	0.00	0.00	QC21	FG-039	

Part Op 100 - Cut as per dwg.

Descriptions: 110 - Bend as per Dwg D3391 Using Bend Prog 3391021 **6.78**

130 - 1-Machine as per Folio FA590 Rev. ____ & Dwg D3391 Rev. ____

150 - Drill X1 Aft cap as per Dwg D3391 .1875" dia

180 - 1-Drill Remaining two holes for tow cap using DT 8819 Locating off of .1875" holes drilled in previous step 2-Drill float bag holes as per Dwg D3391 using DT8798(Do not open tow cap holes to finish size) (ONLY DRILL HOLES MARKED "A") 6-Deburr & Scribe Batch number Inside aft end. 7-Transfer drill D3391-021 with D3391-023

220 - 1-instal spacers as per dwg D3391 A/R Magnabond 6398 batch: **M137712** exp. date: **2018/01** cure time

12hrs. as per QSI015 2- grind crossbolt flush 3-back drill crossbolt if necessary

235 - AND REALODINE AS PER QSI 005

DAS
21
9-00
JAN 09 2018

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ Dat _____		DISPOSITION work ☐ rap ☐ s-is ☐ ed ☐		AGAINST DEPARTMENT/PROCESS					
		Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐		Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐		Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐		Engineering ☐ Quality ☐ Other ☐	
				QTY Effective :				MRB (QS1042) Approval	
				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Environme Desiq Doc/Dat Equip/Tooling Handling/Pre Material Internal Transport Tribal Knowledge LOA Substation Past Expiry Date Misidentified		FAULT CATEGORY Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐		Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐		Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			

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 Email: sales@dartaero.com
 www.dartaerospace.com

S017282

Fwd Tube Assembly

D3391-021

Start up Operation

Mfg Date: 12/05/17
 Job No: 168760-B

PART NO:
Revision:
Operation:
Change No:

OTHER: _____

Job Allocations					
Operation	Component Part	Required	Inventory	Allocated	Std Qty
90-Start up Operation	D6013-047 <i>B386064</i>	1	63	0	0
220-Skidtubes	D3670-4-200 <i>B165393</i>	4	78	0	0
254-HandFinish <i>FM135498-2</i>	<u>AELS-1032-225</u> <i>AK54</i>	10	0	0	0
	AN3C4A <i>5019344</i>	10	1,093	0	0
	D3401-041 <i>F155540</i>	1	11	0	0
	D3672-1 <i>F150074</i>	4	1,741	0	0
	D4095-051 <i>M154902-127</i>	1	40	0	0
	NAS1149C0332R <i>5027570</i>	10	3,419	0	0
Part Specifications					
Specifications could not be found.					

Plex 11/22/17 1:29 PM Dart.lajeunesse.marie

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

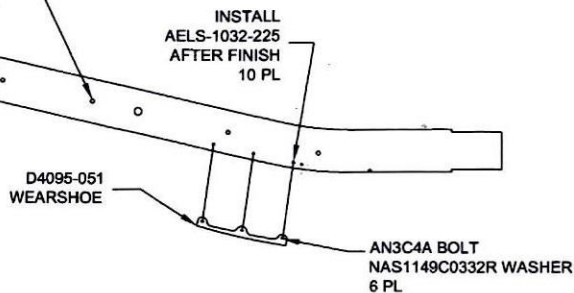
QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QS1042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

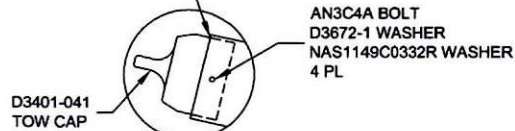
INSTALL D3670-4200 SPACER
SEAL WITH MAGNOBOND 6398
GRIND FLUSH
PRIOR TO PAINTING
4 PL

DETAIL B



D3391-021 FWD TUBE ASSEMBLY ASSEMBLY DETAIL

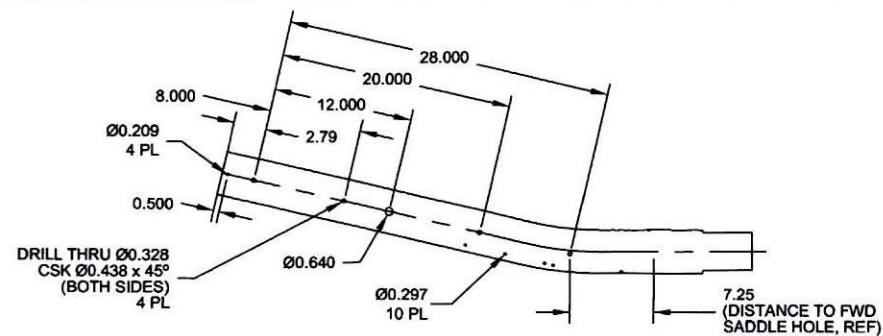
SEAL WITH
SIKAFLEX-241/291



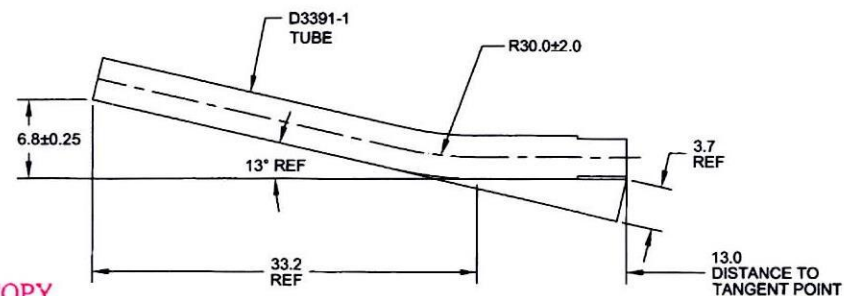
DETAIL B SCALE 2X

D3391-021 FWD TUBE ASSEMBLY PARTS LIST

QTY -021	PART NUMBER	DESCRIPTION
X	D3391-021	FWD TUBE ASSEMBLY
1	D3391-1	TUBE
1	D3401-041	TOW CAP
4	D3670-4200	SPACER
4	D3672-1	WASHER
1	D4095-051	WEARSHOE
10	AELS-1032-225	INSERT
10	AN3C4A	BOLT
10	NAS1149C0332R	WASHER



D3391-021 DRILLING DETAIL

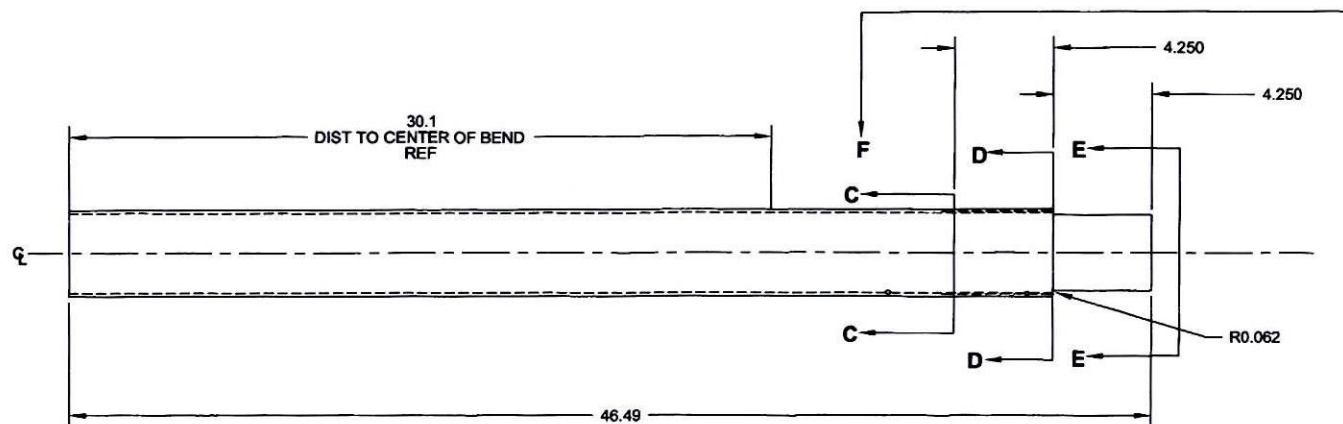


D3391-021 BENDING DETAIL (MAKE FROM D3391-1)

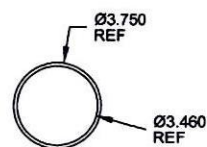
SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 168700-B
ML3 17-11-22

RELEASED
2016-04-28

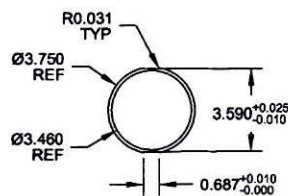
DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	ML	EUGENE, OR	
CHECKED	CP	DRAWING NO.	REV.
MFG. APPR.	<i>DR</i>	D3391	SHEET 4 OF 1
APPROVED	<i>CP</i>	TITLE	SCALE
DE APPR.	<i>CP</i>	412 FLOAT SKIDTUBE	NT
DATE	16.01.14	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	



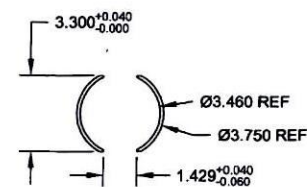
D3391-1 TUBE
(MAKE FROM D6013-047 SKIDTUBE MATERIAL)



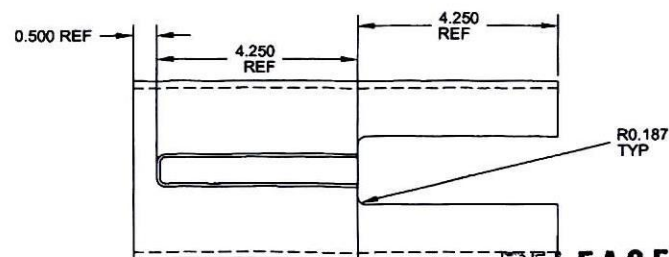
SECTION C-C



SECTION D-D



SECTION E-E



VIEW F-F
SCALE 2X

RELEASED
2016-04-28

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CHECKED	CP	DRAWING NO.	REV. J
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APPROVED		TITLE	SCALE
DE APPR.		412 FLOAT SKIDTUBE	NTS
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